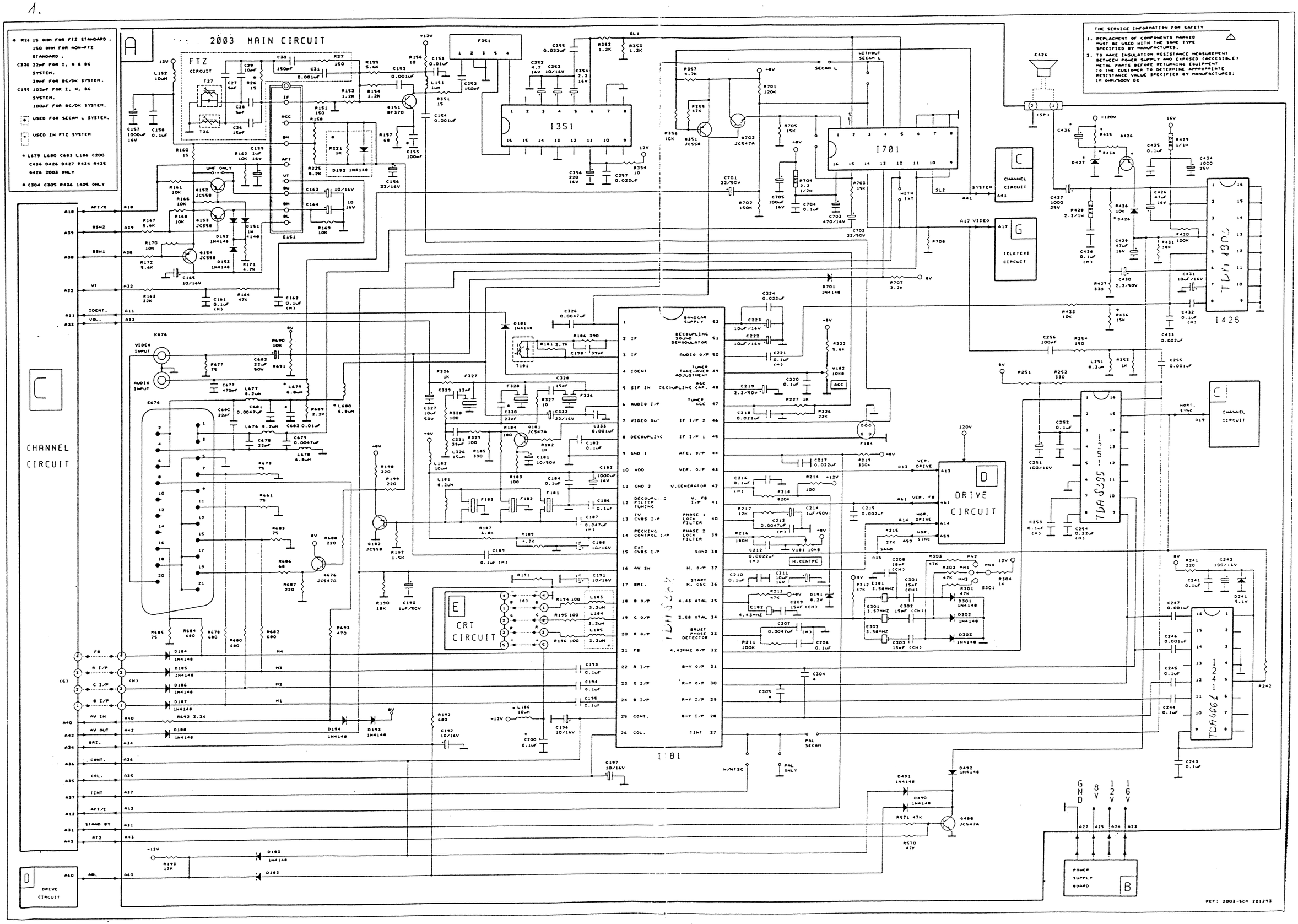
# UNIVERSUM FT-1040

MODEL

SERVICE MANUAL

# TELESTAR 2003/2103 - wersja 2

1.


2003 MAIN CIRCUIT
FTZ CIRCUIT
CHANNEL CIRCUIT
CRT CIRCUIT
DRIVE CIRCUIT
POWER SUPPLY BOARD
TELETEXT CIRCUIT
I351
I701
I426
I181
TDA 3505
TDA 3562
TDA 9160
THE SERVICE INFORMATION FOR SAFETY
1. REPLACEMENT OF COMPONENTS MARKED △ MUST BE USED WITH THE SAME TYPE SPECIFIED BY MANUFACTURES.
2. TO MAKE INSULATION RESISTANCE MEASUREMENT BETWEEN POWER SUPPLY AND EXPOSED (ACCESIBLE) METAL PARTS BEFORE RETURNING EQUIPMENT TO THE CUSTOMER TO DETERMINE APPROPRIATE RESISTANCE VALUE SPECIFIED BY MANUFACTURES: 1M OHM/500V DC
* R24 15 OHM FOR FTZ STANDARD . 150 OHM FOR NON-FTZ STANDARD .
C330 22nF FOR I, H & BG SYSTEM. 39nF FOR BG/DK SYSTEM.
C155 102nF FOR I, H, BG SYSTEM. 100nF FOR BG/DK SYSTEM.
USED FOR SECAM L SYSTEM.
USED IN FTZ SYSTEM
* L679 L680 C683 L186 C200 C436 D426 D427 R434 R435 0426 2003 ONLY
* C304 C305 R436 140% ONLY
WITHOUT SECAM L
WITH TXT
SYSTEM
VIDEO INPUT
AUDIO INPUT
UHF ONLY
VIDEO
AUDIO
SYNC
SAND
H.CENTRE
PAL SECAM
N/NTSC
PAL ONLY
REF: 2003-SCH 201293

B

# 2003 POWER SUPPLY CIRCUIT

C CHANNEL CIRCUIT

THE SERVICE INFORMATION FOR SAFETY ⚠

1. REPLACMENT OF COMPONENTS MARKED MUST BE USED WITH THE SAME TYPE SPECIFIED BY MANUFACTURES.
2. THE AREA ENCLOSED BY THIS LINE (——— ——— ———) IS DIRECTLY CONNETED WITH AC MAIN VOLTAGE WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAEARD OF ELECTRIC SHOCK.

AC INPUT
E101
E102
POWER SWITCH
SW1 (RT) SW2
S101
K101
E103 T3.15A
(ONLY 2003)
C101 0.22uF 250V
C102 0.22uF 250V
E106 LINE FILTER
C103 0.22uF 250V
DEGAUSSING COIL E109
E108
E107 POSISTOR
D101 1N4007
D102 1N4007
D103 1N4007
D104 1N4007
C104 0.0022uF 2KV
C106 0.0022uF 2KV
C105 0.0022uF 2KV
R102 5.6/5W
R103 220K 2W
C108 100uF 400V
R104 180K 1W
R105 180K 1W
R106 61K 2W
C109 0.033uF 630V
D105 BYV 96E
C110 180pF 2KV
E110
E111
R109 1K
C113 100uF/35V
Q104 BS50D
Q101 BUT11AF
C114 0.033uF (M)
R117 330
R113 4.7K
R114 6.8K
D110 10V
R119 10/1W
D108 BYD33D
D109 BYD33D
R108 33
C107 0.001uF 2KV
Q102 2SC1685
R116 2.7K
Q105 BC368
C112 0.1uF (M)
R120 33/2W
R107 0.22 1W
V101 1KB
B+ VOLT. ADJ
Q103 2SC1685
D107 8.2V
R115 6.8K
R112 8.2K
R111 1.8K
C111 10uF 50V
R110 15
D106 BYD33D
R122 5/1W
R121 5/1W
R123 4.7M 1/2W
R124 4.7M 1/2W
C115 0.0022uF 4KV
E113
E112
C118 470pF 2KV
D112 BYV95C
R127 47K/1W
C119 47uF 160V
L101 150uH
C125 22uF/50V
R132 12K/1W
D114 UPC574J
C126 0.01uF
C116 470pF 2KV
D111 BYV95C
R125 0.47/1W
R126 2.2K
C117 1000uF 25V
I101 7812
C120 470uF 16V
C127 0.022uF
I103 7808
C122 0.1uF
C121 470uF 16V
R131 56/0.5W
I102 7805
C128 100uF/35V
C123 220uF 16V
C124 0.022uF

A21 120V
A22 30V
A23 16V
A24 12V
A25 8V
A26 5V
A27 GND

ALL CIRCUIT

✱ WHEN AC 110V 60Hz USE
R102 2.2/5W
R104 100K
R105 100K
R120 27/2W
R121 3.3/1W
R122 3.3/1W
C108 220uF 400V
Q101 BUT12AF

REF: 2003-POW 120993

# CHANNEL CIRCUIT

C

A

MAIN CIRCUIT

AV/O A42
VT A32
AV/I A40
5V A26
STAND BY A31
TINT A37
COL A35
BRI A34
CONT A36
VOL A33
AFT/I A12
AFT/O A18
BSW1 A38
BSW2 A39
SYT A41
IDENT A11

B POWER CIRCUIT (RT) 1 2

R692 3.3K
R566 1K
R549 3.3K 12V
R548 15K
C497 0.22uF (M)
R489 4.7K
R493 4.7K
R485 4.7K
R480 4.7K
R476 4.7K
R481 20K
C500 0.1uF
C499 220uF 16V
R496 47K
R492 33K
R488 33K
R484 82K
R479 56K
R477 10K
R482 10K
R486 10K
R490 15K
R494 4.7K
R478 25K
D494 1N4148
C480 2.2uF 50V
R495 68K
C479 2.2uF 50V
R491 47K
C478 2.2uF 50V
R487 100K
C477 2.2uF 50V
R483 39K
C476 2.2uF 50V
D493 1N4148
R569 220K
R568 100K
Q477 12V
R509
R508
R506 470
R505 1K
R504 100K
C481 0.1uF
R565 22K
R507 33K
Q476 JC558
R503 4.7K
R501 10K
R502 1K
R498 4.7K
R499
R497 10K
R500 4.7K

I476

| | | | |
|---|---|---|---|
| 1 | TINT | VCC | 42 |
| 2 | COL | SCL | 41 |
| 3 | BRI | SDA | 40 |
| 4 | CONT | AV/IN | 39 |
| 5 | VOL | IDENT | 38 |
| 6 | | ON/OFF | 37 |
| 7 | | AV/OUT | 36 |
| 8 | | RMOT | 35 |
| 9 | AFT IN | VTUN | 34 |
| 10 | AFT SW | RESET | 33 |
| 11 | | XTAL2 | 32 |
| 12 | | XTAL1 | 31 |
| 13 | PA0 | TEST | 30 |
| 14 | PA1 | DOSC | 29 |
| 15 | PA2 | DOSC2 | 28 |
| 16 | PA3 | VSYNC | 27 |
| 17 | BSW1 | HSYNC | 26 |
| 18 | BSW2 | FB | 25 |
| 19 | PA6 | BLUE | 24 |
| 20 | SYSTEM | GREEN | 23 |
| 21 | GND | RED | 22 |

ST6226B1

D487 1N4148
R562 4.7K
D488 1N4148
R564 4.7K
R563 100
R561 100
R560 4.7K
Q482 JC547A
R552 4.7K
R554 10K
R551 47K
Q484 JC547A
* R555 330
DS01 LED
R550 4.7K
R543 4.7K
C496 47nF
R544 3.3K
R545 3.3K
R546 100
R547 12K
Q481 PH2369
R567 47K
C502 0.022uF
C501 22uF 50V
ES21
E476 8.0MHZ
C493 15pF (CH)
C494 15pF (CH)
C495 1uF 50V
R539 47K
D484 1N4148
R541 1K
R542 470
Q480 JC558
R540 1K
D485 3.9V
L476 47uH
C491 20pF (CH)
C492 20pF (CH)
D482 1N4148
D481 1N4148
C490 0.1uF (M)
C489 0.047uF (M)
D483 1N4148
R538 10K
R536 10K
R537 10K

(TX) 1 5V, 4 GND, 3 SCL, 2 SDA → A26, A27, A76, A75 — TELETEXT CIRCUIT G

A31 STAND BY → DRIVE CIRCUIT D

A22 30V → POWER CIRCUIT B

* FOR CTV1405 ONLY
C501 C502 D494
RS24 RS26 RS28 RS34 USE 2.2K
RS55 USE 100 OHM
RS67 USE 4.7K

* FOR CTV2003 ONLY
RS10 RS13 RS14
RS15 RS16 RS17
RS20 RS22

A19 HORT. SYNC → MAIN CIRCUIT C

A57 VERT. SYNC, A58 HORT. SYNC → DRIVE CIRCUIT D

(G) FB, B, G, R ← A OR G — MAIN OR TELETEXT CIRCUIT

G4 A71
G1 A72
G2 A73
G3 A74

* RS34 3.3K
* RS28 4.7K
* RS26 4.7K
* RS24 4.7K

S477 LINEAR SELECT
S493 VOL.DOWN
S488 VOL.UP
S492 PRO.DOWN
S487 PRO.UP
S498 SEARCH
S478 STORE
S497 AV/TV

D477 1N4148
D476 1N4148
D478 1N4148
D479 1N4148
D480 1N4148

* RS10 220
* RS13 180
* RS14 220
* RS15 220
* RS16 220
* RS17 220
* RS18 220
* RS19 220
* RS20 220
* RS22 220

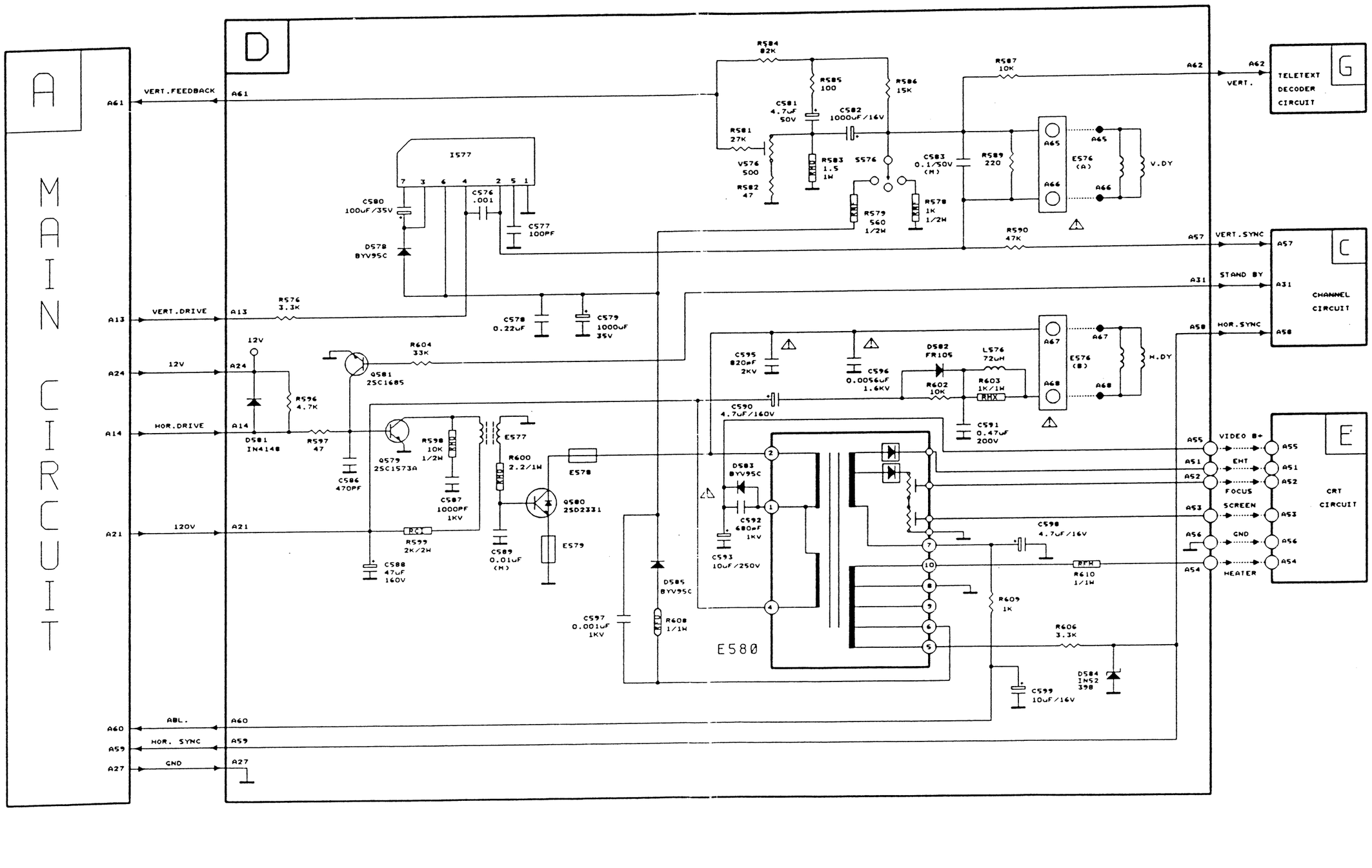
R511 20K
Q478 JC547A
R512 10K
C483 10uF 16V

R521 4.7K
R557 15K
R523 4.7K
Q487 2SC1685
20K RS30
R559 150K
Q486 JC547A
R558 100K
C498 33uF 16V
Q485 JC547A
R556 4.7K
D486 1N4148
R531 47K
R533 1K
Q479 JC547A
C488 1uF 50V
R532 8.2K

R525
C484 22pF
R527
C485 22pF
R529
C486 22pF
R535
C487 22pF

REF: 2003-CPU 100993

# DRIVE CIRCUIT

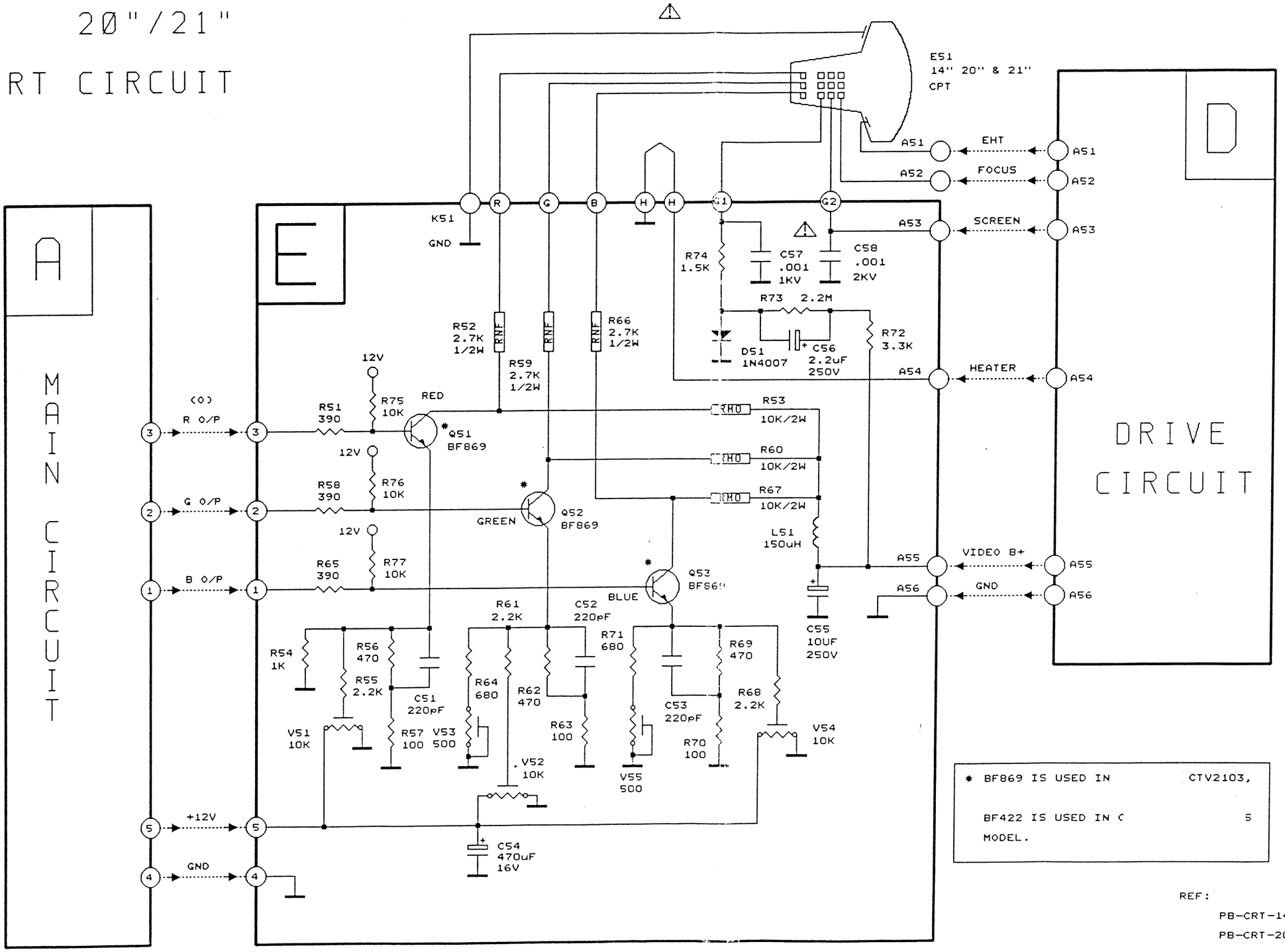



REF: 1405-DRI 120993

5.

# 20"/21"

# CRT CIRCUIT




* BF869 IS USED IN CTV2103,

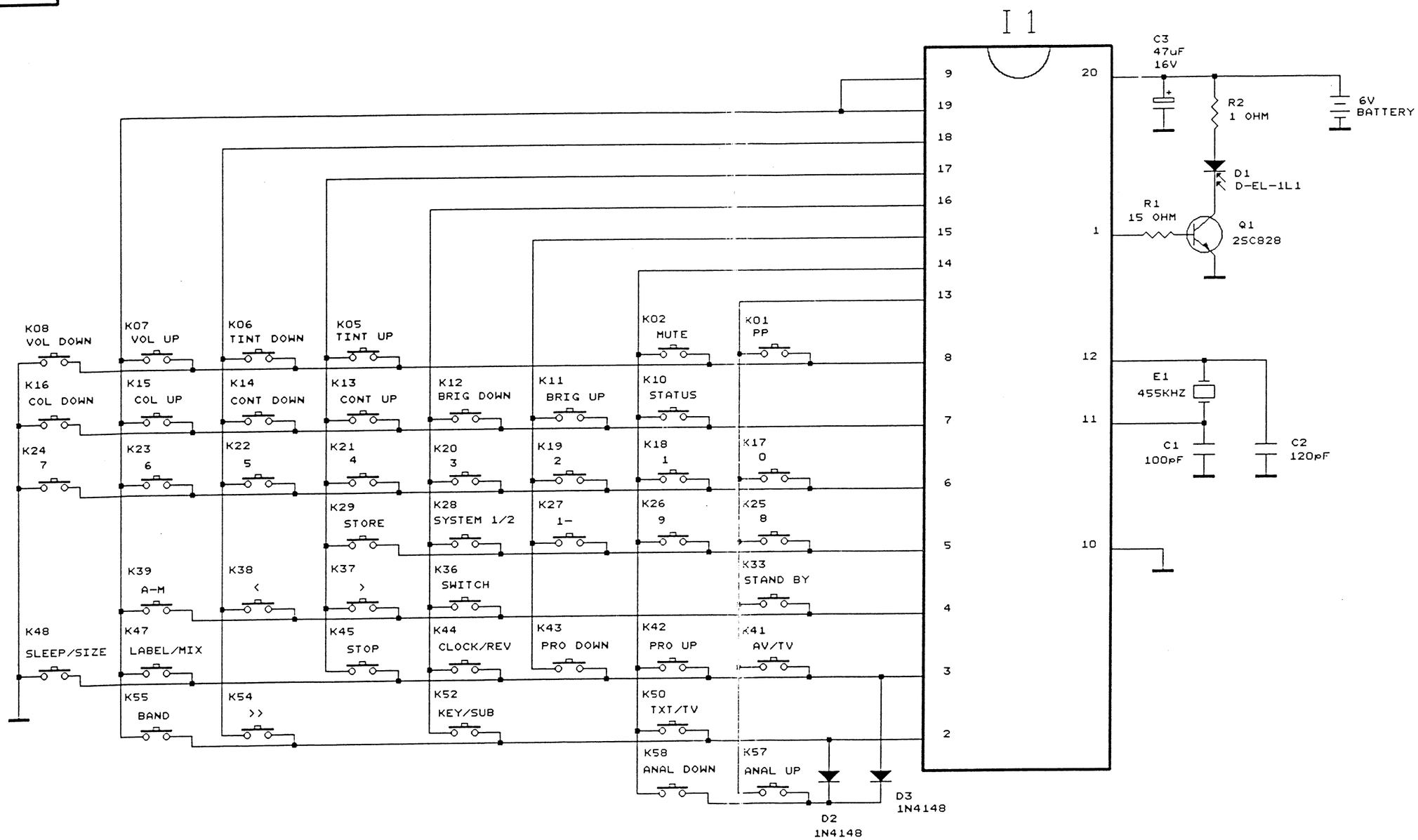
BF422 IS USED IN C 5
MODEL.

REF:

PB-CRT-14-V1

PB-CRT-20-V1

# F HANDSET CIRCUIT ( PB-HS-SGS )




REF: HS-SGS 120194

# COMPONENT DIAGRAM

## COMPONENT SIDE